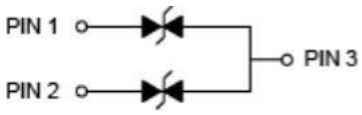
Features

- 200W(8/20μs) Peak Pulse Power
- High ESD Protection Level
- SOT23 Thin SMD Package
- RoHS compliant
- Matte Tin Lead finish (Pb-Free)
- Protect Two L2BTBus Lines

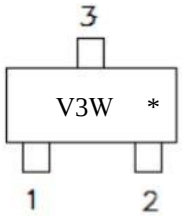
Applications

- DeviceNet
- Low and High Speed L2BT
- Smart Distribution Systems (SDS)
- Controlled Area Network − ESD 1.1 / ESD FD

Circuit Diagram



PIN Diagram



Ordering information

Device	Package	Reel Size	Qty / Reel
LXE23T3V3B	SOT-23	7 inch	3000

Maximum Ratings (Ta = 25℃)

Parameter		Symbol	Limit	Unit
IEC 61000-4-2 ESD Voltage	Air Model	$V_{ESD(1)}$	±30	kV
	Contact Model		±30	
JESD22-A114-B ESD Voltage	Per Human Body Model		±16	
ESD Voltage	Machine Model	$P_{PP(2)}$	±0.4	
Peak Pulse Power			200	W
Peak Pulse Current		$I_{PP(2)}$	10	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{STG}	-55~+150	℃

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

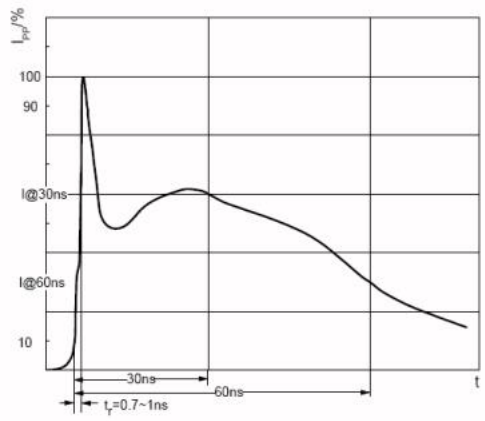
ESD standards compliance

IEC61000-4-2 Standard

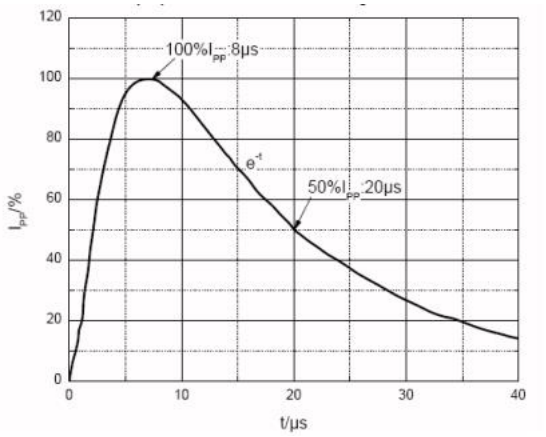
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

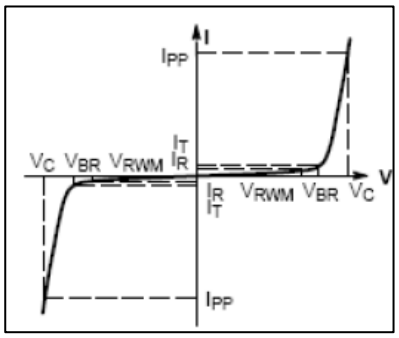


ESD pulse waveform according to IEC61000-4-2



8/20μs pulse waveform according to IEC 61000-4-5

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage

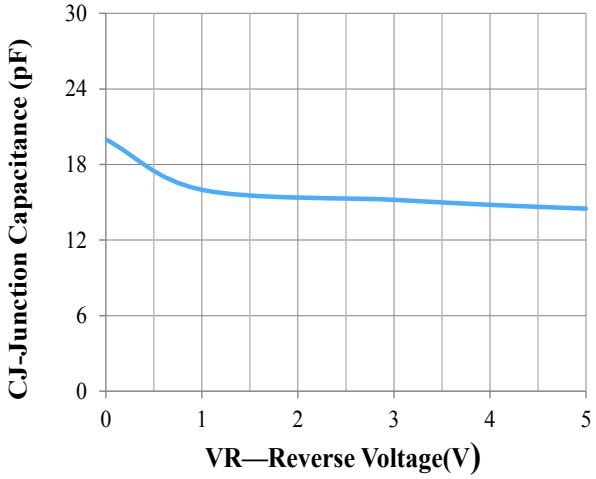


V-I characteristics for a Bi-directional TVS

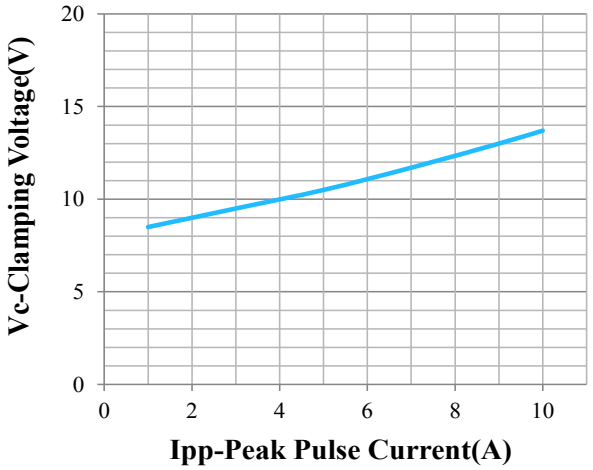
Electrical Characteristics (Ta = 25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Peak Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	5.8	6.4	7.5	V
Reverse Leakage Current	I_R	V_{RWM} = 3.3 V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A(8/20μs)			9	V
Clamping Voltage	V_C	I_{PP} = 10A(8/20μs)			20	V
Peak Pulse Current	I_{PP}	‘tp = 8/20μs			10	A
Capacitance	C_J	V_R = 0V, f = 1MHz		20		pF

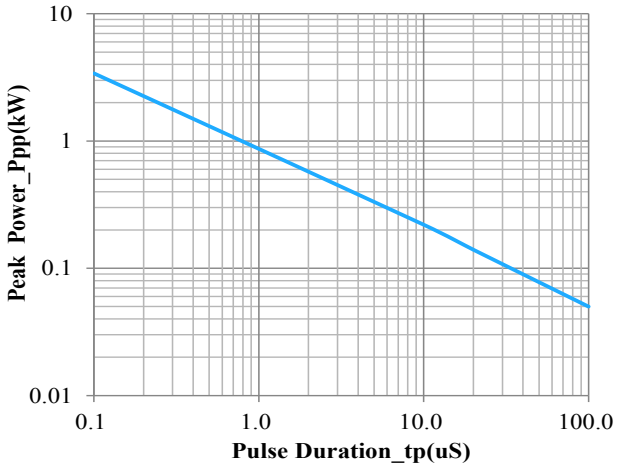
Typical Performance Characteristics (T_A =25°C unless otherwise Specified)



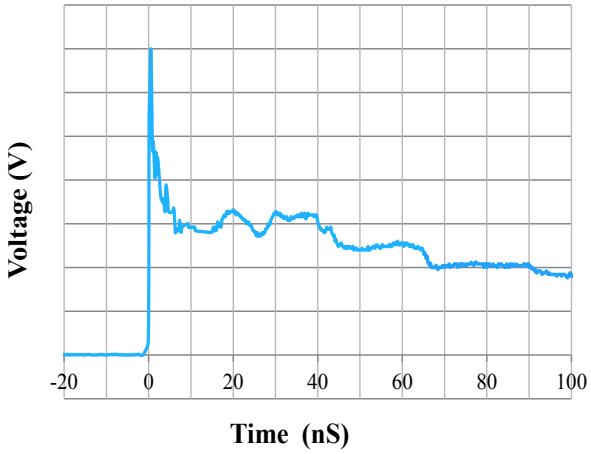
Junction Capacitance vs. Reverse Voltage



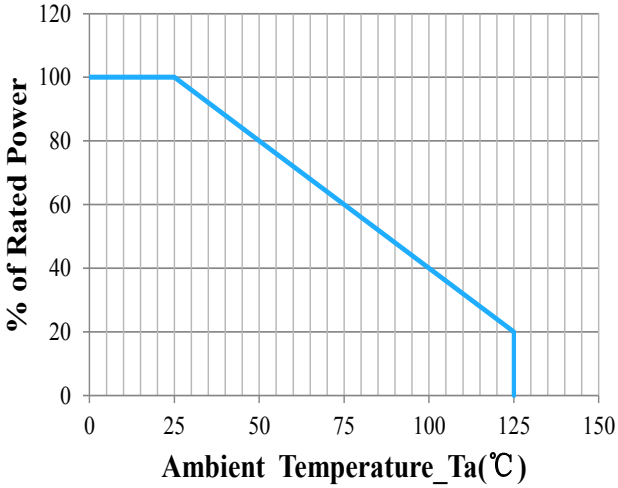
Clamping Voltage vs. Peak Pulse Current



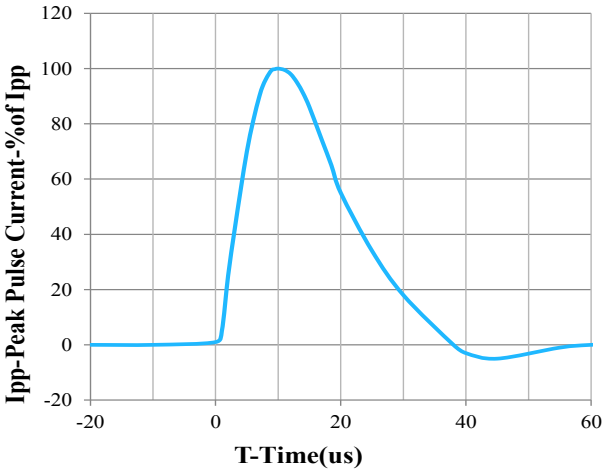
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

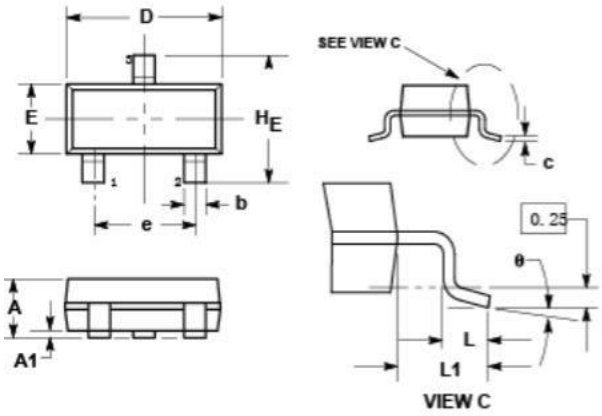


Power Derating Curve



8 X 20us Pulse Waveform

SOT-23 Dimension



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104
θ	0°	----	10°	0°	----	10°

STYLE 27:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

SOLDERING FOOTPRINT